

ASG

UNDERSTANDING GLASS
COMPANY BROCHURE



PERTH CHILDREN'S HOSPITAL WA

FAÇADE AREA: 17041M²

ARCHITECTS: COX HOWLETT &
BAILEY WOODLAND, BILLARD
LEECE PARTNERSHIP WITH HKS

BUILDER: JOHN HOLLAND

PRODUCTS: DGU TRIPLE
LOW-E NATURAL CLR 65
COATING ON CLEAR; 17.52MM
LAMINATED GLASS WITH WHITE
CERAMIC FRIT PATTERN



ABOUT Us

ASG (formerly known as CSG Australia), has been established in Australia for over 20 years, in which we have become one of the largest suppliers of architectural glass by adhering to our philosophy of putting innovation and customers first.

Our success is built upon understanding our customers' needs and maintaining stringent manufacturing standards, while ensuring the optimisation of energy efficiency in contemporary Australian building innovations.

From float glass, laminated glass, solar reflective coatings, Low-E DGUs, ceramic frit application, and customised innovations, ASC's diverse product range gives architects the flexibility to bring their big ideas into life. We are passionate about helping to shape our cities, and to supply quality products and excellent service to all our clients.



ST KILDA ROAD TOWER MELBOURNE VIC
TOTAL FAÇADE AREA: 4000M2 | PRODUCTS DGU GLASS WITH
SOLARPRO SOLAR REFLECTIVE COATING



NISHI APARTMENTS ACT

FAÇADE AREA: 4217M²

ARCHITECTS: FENDER

KATSALIDIS ARCHITECTS AND

SUPPOSE DESIGN OFFICE

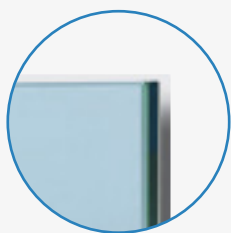
FAÇADES CONSULTANT: ARUP

PRODUCTS: DCU TRIPLE LOW-E

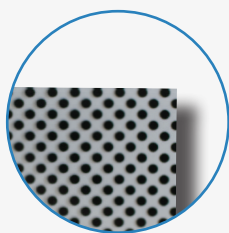
NATURAL CLR 65S-1 COATING ON

CLEAR

PRODUCTS WE OFFER



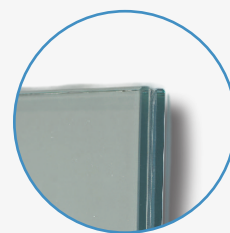
FLOAT GLASS



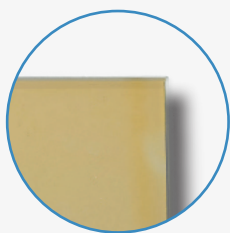
CERAMIC FRIT GLASS



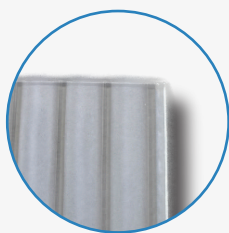
INSULATING GLASS



LAMINATED GLASS



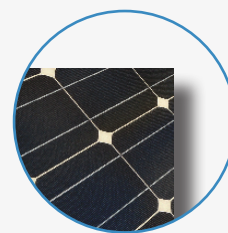
**SOLAR REFLECTIVE
GLASS**



PATTERN GLASS



CUSTOMISED PRODUCTS



SOLAR PANELS

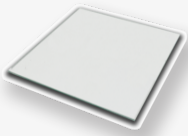
Disclaimer: ALL PICTURES OF GLASS SAMPLES ARE FOR REFERENCE ONLY. GLASS COLOUR MAY VARY SUBJECT TO DIFFERENT LIGHTING CONDITIONS



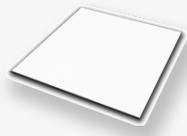
200 GEORGE STREET SYDNEY NSW

TOTAL FAÇADE AREA: 26113M2 | **ARCHITECT:** FRANCIS-JONES MOREHEN THORP (FJMT) | **BUILDER:** MIRVAC |
FAÇADE CONTRACTOR: PERMASTEELISA | **PRODUCTS:** DGU TRIPLE LOW-E NATURAL CLR 65S-0 COATING ON LOW IRON;
DGU DOUBLE LOW-E CHAMPAGNE 46-7 COATING ON CRYSTAL GREY; LOW IRON GLASS

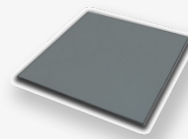
FLOAT GLASS



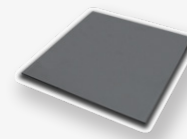
Clear Glass



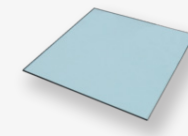
Low Iron Glass



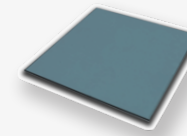
Crystal Grey



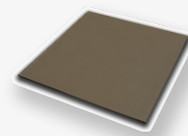
Euro Grey



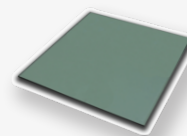
Light Blue



Dark Blue



Bronze



Green

Invented by A. Pilkington in 1952, float glass is the process of manufacturing glass by 'floating' on molten tin. Initially, raw materials are transported into a large furnace to be melted at approximately 1500 °C. Once physically transformed, the molten glass is then transported through the delivery canal and floats onto an enclosed molten tin around 1100°C, where the glass is gradually uniformed and smoothed, before being cooled and ready to be cut.

From clear, low iron and our diverse range of tinted float glass options, our float range provides for great visual light transmittance, outstanding flatness and uniformity, and high precision control. This also ensures that consistency is maximised for DGU, laminated, and other curtain wall glass configurations.

Our float glass selection conforms to a multitude of international standards. These include the Australian Standard AS/NZS 4667, American Standard ASTM C1036-5, British Standard BS952, Japanese Standard JIS R3202, and Chinese GB11614. Our international compliance ensures the monolithic glass you are receiving are of the highest quality, which can be used wherever that is required.

Standard sizes and dimensions

Thickness(mm): 3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 12.0, 15.0, 19.0

Dimensions(mm): 2440x3660

CERAMIC FRIT GLASS

Ceramic frit glass is tempered or heat strengthened glass with one surface either partially or totally covered with inorganic glazes. With its stable and unfading colour, our ceramic frit selection can serve as a great customisation for outstanding decorative effect, but also as a great colour back option that can be used for spandrels or as replacements for heavy deadweight materials.

We offer a dynamic range of colour and pattern options for your selection. Based on project requirements, we are able to match your colour and pattern preferences. Please contact our expert consultants for any advice required.

Standard sizes and dimensions

Thickness (mm): 4, 5, 6, 8, 10, 12, 15, 19

Dimensions (mm): 300 x 300 to 2250 x 4500



UNIVERSITY OF SYDNEY NANOSCIENCE INSTITUTE, SYDNEY NSW

TOTAL FAÇADE AREA: 3000M2 | **ARCHITECT:** ARCHITECTUS | **BUILDER:** LEND LEASE | **PRODUCTS:** DGU DOUBLE LOW-E AQUA SHADE 60-0 COATING ON LOW IRON WITH WHITE STRIPPED CERAMIC FRIT PATTERN; LOW IRON GLASS WITH WHITE STRIPPED CERAMIC FRIT PATTERN

INSULATING GLASS



863 HAY ST PERTH WA

FAÇADE AREA: 4000M²

ARCHITECTS: THE BUCHAN GROUP

BUILDER: PROBUILD

PRODUCTS: DGU DOUBLE LOW-E NATURAL CLR 67-3 COATING ON EURO GREY; DGU DOUBLE LOW-E PLATI SHADE 39-1 COATING ON CLEAR; EURO GREY GLASS WITH GREY DOTTED CERAMIC FRIT PATTERN; CLEAR GLASS WITH GREY DOTTED CERAMIC FRIT PATTERN

Insulating glass comprises of two or more plies of glass that are separated with aluminium spacer fully filled with desiccant, and sides sealed with high strength sealant. This allows Insulating Glass Units (IGUs) to increase thermal performance by reducing heat gain or loss.

Annealed clear glass, tinted glass, solar reflective glass, Low-E glass, laminated glass, tempered glass, heat-strengthened glass and curved glass can all be used to form insulating glass according to demands.

At ASC, we seek to optimise building a dynamic range of insulating glazing that offers you the highest ratio of visual light transmittance against heat gain/ loss. From high transmittance products to our specialised aesthetic coatings, we deliver effective solutions tailored to satisfying contemporary architectural designs and ESD requirements.

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Standard sizes and Dimensions

Width of aluminium spacer (mm):

6, 9, 12, 16, 20

Dimensions (mm):

300 x 300 to 2440 x 6000

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SUPER N1 On Clear

SUPER N3 On Clear

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Super SHade 52S-1 On Clear

Natural CLR 65S-1 On Clear

Aqua SHade 52S-1 On Clear

Super SHade 50S-1 On Clear

Natural CLR 72S-1 On Clear

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LAMINATED GLASS

Laminated glass is a form of high performing safety glass, comprised of two or more plies of glass held together with a polyvinyl butyral interlayer (PVB) in between. The infusion of PVB and glass results in the glass being stuck onto the PVB interlayer even when damaged or broken.

Safety, high visual light transmittance, great thermal properties, excellent acoustic attributes and ultra-violet protection are some of the features that results in laminated glass being prominently used on shop fronts, high end residential and commercial buildings, motor vehicles, ships, and airplanes.

STANDARD SIZES AND DIMENSIONS

Thickness of PVB interlayer (mm): 0.38- 3.04

Dimensions (mm): 300 x 300 to 2440 x 6000



1 BLIGH STREET SYDNEY NSW
PRODUCT: 18.28MM LOW IRON
LAMINATED GLASS WITH SGP
INTERLAYER



PRODUCTS WE OFFER:

EXTERNAL SUBSTRATE/COATING:

- CLEAR, LOW IRON AND ALL AVAILABLE TINTED OPTIONS
- SOLAR REFLECTIVE COATINGS

INTERNAL SUBSTRATE:

- ALL AVAILABLE EXTERNAL SUBSTRATE AND COATING
- PLANIBEL PYROLYTIC LOW-E COATING
- SUNERGY PYROLYTIC LOW-E COATING

TYPICAL PVB INTERLAYER:

- CLEAR PVB
- ACOUSTIC PVB
- SOLAR ABSORBING PVB
- DUPONT SGP
- COLOURED PVB

BRANDS TO BE SAFLEX, VANCEVA, DUPONT, AND SEKISUI

AVAILABLE CONFIGURATIONS:

- LAMINATED ONLY
- DGU WITH LAMINATED INTERNAL
- DGU WITH LAMINATED EXTERNAL
- DGU WITH LAMINATED INTERNAL AND EXTERNAL

SOUTH AUSTRALIAN HEALTH AND MEDICAL RESEARCH INSTITUTE, ADELAIDE SA

FACADE AREA: 4500M² | ARCHITECT: WOODS BAGOT |

**FACADE CONTRACTOR: YUANDA | PRODUCT: LAMINATED DGU DOUBLE LOW-E COOL SHADE
57-0 COATING ON LOW IRON**

CUSTOMISED PRODUCTS



Great buildings need great products. Driven by our expertise, we are able to deliver project specific and customised products catered to meeting innovative demands. Some of the specialised products we can supply includes:

- Curved Laminated and DGUs;
- Venetian blind IGUs;
- DGUs with metal mesh;
- Self-cleaning glass;
- Patterned glass;
- Fire rated glass;
- Polychrome reflective glass;
- Digital screen printing glass

Through our experience, large production capacity and existing networks, we are able to precisely understand and deliver to your needs.

48-50 MARTIN PLACE SYDNEY NSW

FACADE AREA: 2900M² | **ARCHITECT:** JOHNSON PILTON WALKER ARCHITECTS |

FAÇADE CONTRACTOR: SHARVAIN PROJECTS | **PRODUCTS:** LAMINATED TRIPLE GLAZED UNIT TRIPLE LOW-E NATURAL CLR 65S-0 COATING ON LOW IRON WITH CUSTOMISED SILVER METAL MESH; WHITE TRANSLUCENT LAMINATED TRIPLE GLAZED UNIT WITH CUSTOMISED SILVER METAL MESH; TRIPLE CLEAR SUNERGY LAMINATED GLASS

OTHER PRODUCTS



DGU With Copper Mesh



DGU With Venetian Blinds



DGU With 50MM Airspacer

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SOLAR PANEL



Products we offer:

- 1) **CSGAAS2-60** - Power = 250W - 280W
- 2) **CSGAAS2 - 72** - Power = 310W - 335W
- 3) **CSG Smart** - Power optimiser
harvesting up to 25% more energy to solar modules

PROJECT: XM-5 SOLAR PARK | LOCATION: ARZFELD GERMANY PRODUCT: 1.5 MW



With several decades of experience in solar manufacturing, our ability to supply the entire PV chain including silicon materials, ingot, wafer, solar glass, solar cell and modules ensures excellent raw materials and production control and also adheres to ISO90001 & ISO14001 standards



Modules certified by TUV Rheinland and compliance to IEC612215, IEC 61730 standards. This includes salt mist corrosion test, fire test, ammonia resistance test, PID test, sand abrasion test and carbon footprint assessment in TUV.



Great performance capabilities even under cloudy conditions, bad weather and night time.



From power tolerance of 0 to +6w, we ensure up to 5.8% more power than conventional outputs.



We perform Electroluminescence testing before and after lamination in addition to finished products. This process guarantees the assurance of stringent quality standards assurance.

PRODUCT DIMENSIONS SUMMARY

Float Glass	Thickness (mm)	4 10	5 12	6 15	8 19	
	Dimension (mm)	Up to 2440*3660				
Low-E Glass	Thickness (mm)	4 10	5 12	6 15	8 19	
	Dimension (mm)	300*300 to 2440*6000				
Solar Reflective Glass	Thickness (mm)	4 10	5 12	6 15	8 19	
	Dimension(mm)	300*300 to 2440*6000				
Ceramic Frit Glass	Thickness(mm)	4 10	5 12	6 15	8 19	
	Dimension (mm)	300*300 to 2250*4500				
Insulating Glass	Thickness of Airspacer (mm)	6	9	12	16	20
	Dimension (mm)	300*300 to 2440*6000				
Tempered Glass	Thickness (mm)	4 10	5 12	6 15	8 19	
	Dimension (mm)	300*800 to 2440*6000				
Heat Strengthened Glass	Thickness (mm)	4	5	6	8	
	Dimension (mm)	300*800 to 2440*6000				
Heat Soak Test	Thickness (mm)	4 10	5 12	6 15	8 19	
	Dimension (mm)	300*300 to 2440*6000				
Curved Tempered Glass	Thickness (mm)	5 12	6 15	8 19	10	
	Dimension (mm)	600*400 to 2440*4200				
	Minimum Radius (mm)	1000				



UTS CHAU CHAK WING BUILDING, SYDNEY NSW

FACADE AREA:6000M2 | **ARCHITECT:** GEHRY PARTNERS | **BUILDER:** LENDLEASE

FAÇADE CONTRACTOR: SHARVAIN PROJECTS | **PRODUCTS:** DGU DOUBLE LOW-E PLATI SHADE 39-1 COATING ON
CLEAR; WHITE CERAMIC DOTTED FRIT APPLICATION

PROJECTS GALLERY - NEW SOUTH WALES



INTERNATIONAL TOWERS SYDNEY, BARANGAROO
Product: DGU Triple Low-E Neutral Coating On Clear Glass



DARLING HARBOUR LIVE THEATRE, SYDNEY
Product: DGU Double Low-E High Transmittance Coating On Clear Glass

PROJECTS GALLERY - NEW SOUTH WALES



INTERNATIONAL CONVENTION CENTRE, SYDNEY

Product: DGU Double Low-E High Transmittance Coating On Clear Glass



WESTFIELD CBD, SYDNEY

Product: Clear Sunergy Laminated Glass;

DGU Triple Low-E Neutral Coating On Dark Blue Glass

PROJECTS GALLERY - NEW SOUTH WALES



177 PACIFIC HIGHWAY, NORTH SYDNEY

Product: DGU Triple Low-E Neutral Coating On Crystal Grey Glass



ONE PARRAMATTA SQUARE, PARRAMATTA

Product: DGU Triple Low-E Coating On Neutral Coating Clear Glass

PROJECTS GALLERY - VICTORIA



717 BOURKE STREET, MELBOURNE

Product: DGU Double Silver Low-vE Coating on Clear Glass;
Laminated Glass-Clear glass with Colourback coverage



699 BOURKE STREET, MELBOURNE

Product: DGU Triple Low-E Neutral Coating with Clear glass

PROJECTS GALLERY - VICTORIA



838 COLLIN STREET, MELBOURNE

Product: DGU Triple Low-E Coating On Low Iron Glass



737 BOURKE STREET, MELBOURNE

Product: Grey glass with Ceramic Frit;
DGU with Low-E Coating and Solar Reflective Coating on Clear glass

PROJECTS GALLERY - VICTORIA



800 COLLINS STREET, MELBOURNE

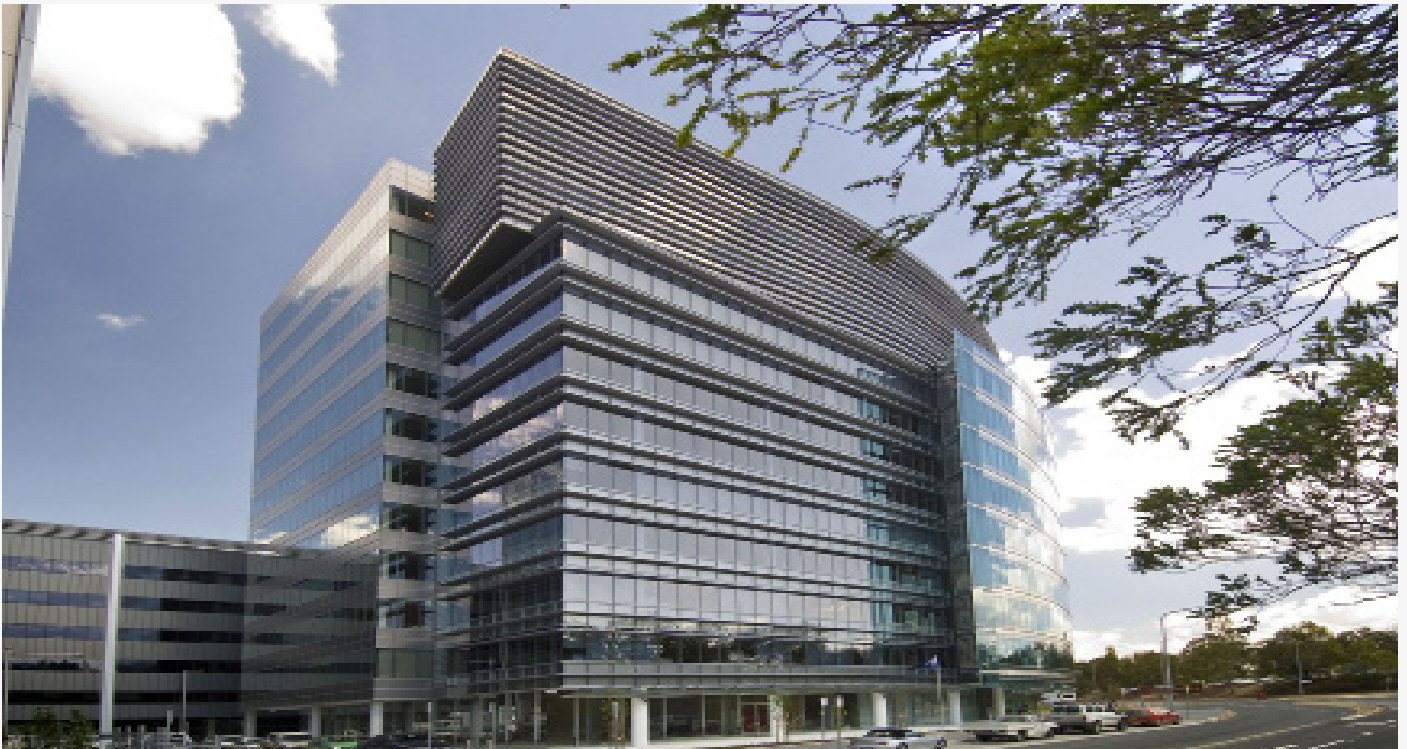
Product: DGU Double Low-E Neutral Coating With Clear Glass



ROYAL CHILDREN'S HOSPITAL, MELBOURNE

Product: DGU Double Low-E Coating On Green Tinted Glass;
Laminated Glass- Pink/White/Green Colourback With
Performance Glass

PROJECTS GALLERY - AUSTRALIAN CAPITAL TERRITORY



18 MARCUS CLARKE, CANBERRA

Product: DGU Double Low-E Neutral Coating on Clear glass;
Clear Laminated glass



28 SYDNEY AVENUE, CANBERRA

Product: DGU Double Low-E Neutral Coating With Grey Tinted Glass

PROJECTS GALLERY - WESTERN AUSTRALIA



CENTURY CITY, PERTH

Product: DGU Double Low-E Coating
On Dark Blue Tinted Glass



140 WILLIAM STREET, PERTH

Product: Laminated Glass- Green/ Grey/ Blue Tinted Glass

PROJECTS GALLERY - SOUTH AUSTRALIA



CITY CENTRAL TOWER, ADELAIDE

Product: DGU Double Low-E Coating With Green Tinted Glass



FLINDERS UNIVERSITY, TONSLEY PARK, ADELAIDE

Product: DGU Triple Low-E Neutral Coating On Laminated Exterior With Ceramic Frit On Low Iron Glass

PROJECTS GALLERY - QUEENSLAND



180 ANN STREET, BRISBANE

Product: DGU Double Silver Low-E coating with Grey, Green; Clear
Glass; Ceramic Frit Glass; Laminated Glass



480 QUEEN STREET, BRISBANE

Product: DGU Triple Low-E Neutral Coating On Clear Glass;
DGU Double Low-E Silver Coating On Clear Glass

PERFORMANCE DATA

MONOLITHIC FLOAT GLASS

No	Description Of Sample	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
		Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
			Indoor	Outdoor						
1	5mm Clear	90	8	8	83	8	5.85	5.28	1.00	0.87
2	6mm Clear	90	8	8	82	8	5.82	5.25	0.99	0.86
3	8mm Clear	89	8	8	79	7	5.75	5.19	0.96	0.83
4	10mm Clear	88	8	8	76	7	5.68	5.14	0.94	0.82
5	12mm Clear	88	8	8	72	7	5.61	5.08	0.91	0.79
6	15mm Clear	88	8	8	70	7	5.52	5	0.90	0.78
7	19mm Clear	87	8	8	66	6	5.39	4.89	0.86	0.75
8	5mm Low Iron	91	9	9	88	8	5.86	5.28	1.03	0.90
9	6mm Low Iron	90	9	9	88	8	5.82	5.25	1.03	0.90
10	8mm Low Iron	90	9	9	87	8	5.75	5.19	1.02	0.89
11	10mm Low Iron	90	9	9	86	8	5.68	5.13	1.01	0.88
12	12mm Low Iron	90	9	9	86	9	5.62	5.08	1.01	0.88
13	15mm Low Iron	89	9	9	83	8	5.53	5.01	0.99	0.86
14	19mm Low Iron	89	9	9	81	9	5.41	4.9	0.97	0.85
15	5mm Green	77	7	7	48	6	5.85	5.28	0.72	0.62
16	6mm Green	74	7	7	43	5	5.81	5.25	0.68	0.59
17	8mm Green	70	7	7	36	5	5.75	5.19	0.63	0.55
18	10mm Green	65	7	7	30	5	5.68	5.13	0.59	0.51
19	5mm Grey	50	6	6	51	6	5.85	5.28	0.74	0.65
20	6mm Grey	44	5	5	45	5	5.81	5.25	0.70	0.61
21	8mm Grey	35	5	5	36	5	5.75	5.19	0.63	0.55
22	10mm Grey	27	5	5	29	5	5.68	5.13	0.58	0.50
23	5mm Dark Blue	61	6	6	52	6	5.84	5.26	0.75	0.65
24	6mm Dark Blue	56	6	5	47	5	5.8	5.23	0.71	0.62
25	8mm Dark Blue	48	5	5	38	5	5.73	5.18	0.65	0.56
26	10mm Dark Blue	41	5	5	31	5	5.67	5.12	0.60	0.52
27	5mm Crystal Grey	67	6	7	61	6	5.85	5.28	0.82	0.71
28	6mm Crystal Grey	63	6	6	56	6	5.81	5.25	0.79	0.68
29	8mm Crystal Grey	56	6	6	49	6	5.75	5.19	0.73	0.63
30	10mm Crystal Grey	50	6	6	42	5	5.68	5.13	0.68	0.59

PYROLYTIC LOW-E GLASS

No	Description Of Sample	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
		Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
			Indoor	Outdoor						
1	5mm Planibel	80	9	9	62	9	3.88	3.07	0.79	0.68
2	6mm Planibel	80	9	9	61	8	3.87	3.06	0.78	0.68
3	8mm Planibel	80	10	11	64	10	3.77	2.96	0.80	0.70
4	10mm Planibel	80	10	11	63	9	3.77	2.98	0.80	0.69
5	5mm Sunergy	72	8	9	54	11	4.19	3.44	0.72	0.63
6	6mm Sunergy	72	8	9	54	11	4.17	3.43	0.71	0.62
7	8mm Sunergy	72	8	9	52	10	4.1	3.36	0.70	0.61
8	10mm Sunergy	72	8	9	51	10	4.03	3.3	0.69	0.60

LAMINATED GLASS

No	Description Of Sample	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
		Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
			Indoor	Outdoor						
1	5mm Clear/0.38mm PVB/5mm Clear	89	8	8	73	73	5.62	5.08	0.92	0.80
2	6mm Clear/1.52mm PVB/6mm Clear	87	8	8	70	70	5.39	4.89	0.89	0.78
3	5mm Low Iron/0.38mm PVB/5mm Low Iron	90	9	9	82	82	5.63	5.09	0.98	0.85
4	6mm Low Iron/1.52mm PVB/6mm Low Iron	90	9	9	79	79	5.39	4.89	0.95	0.83
5	5mm Green/0.38mm PVB/5mm Clear	76	7	7	44	44	5.62	5.08	0.69	0.60
6	6mm Green/1.52mm PVB/6mm Clear	71	7	7	36	36	5.39	4.89	0.63	0.55

PERFORMANCE DATA

LAMINATED GLASS

No	Description Of Sample	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
		Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
			Indoor	Outdoor						
7	5mm Grey/0.38mm PVB/5mm Clear	50	6	6	46	5	5.62	5.08	0.70	0.61
8	6mm Grey/1.52mm PVB/6mm Clear	44	5	5	38	5	5.39	4.89	0.65	0.56
9	5mm Dark Blue/0.38mm PVB/5mm Clear	60	6	6	47	5	5.62	5.08	0.71	0.62
10	6mm Dark Blue/1.52mm PVB/6mm Clear	55	6	6	39	5	5.39	4.89	0.66	0.57
11	5mm Crystal Grey/0.38mm PVB/5mm Clear	66	6	6	54	6	5.62	5.08	0.77	0.67
12	6mm Crystal Grey/1.52mm PVB/6mm Clear	62	6	6	48	6	5.39	4.89	0.72	0.63

PLANIBEL SOLAR REFLECTIVE LAMINATED SERIES

No	Description Of Sample	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
		Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
			Indoor	Outdoor						
13	5mm Clear/0.38mm PVB/5mm Planibel#4	81	10	11	61	8	3.77	3.00	0.78	0.68
14	6mm Clear/1.52mm PVB/6mm Planibel#4	78	9	9	54	7	3.66	2.92	0.71	0.62
15	6mm SolarPro 165 on Clear/1.52mm PVB/6mm Planibel#4	58	18	12	42	14	3.66	2.92	0.59	0.52
16	6mm SolarPro 154 on Clear/1.52mm PVB/6mm Planibel#4	49	16	13	33	11	3.66	2.92	0.52	0.46
17	6mm SolarPro 143 on Clear/1.52mm PVB/6mm Planibel#4	38	13	17	25	11	3.66	2.92	0.45	0.39
18	5mm Low Iron/0.38mm PVB/5mm Planibel#4	82	10	11	65	9	3.77	3.00	0.80	0.70
19	6mm Low Iron/1.52mm PVB/6mm Planibel#4	80	9	9	57	8	3.66	2.92	0.74	0.64
20	6mm SolarPro 065 on Low Iron/1.52mm PVB/6mm Planibel#4	61	19	12	50	19	3.66	2.92	0.65	0.56
21	6mm SolarPro 054 on Low Iron/1.52mm PVB/6mm Planibel#4	50	16	13	38	11	3.66	2.92	0.56	0.49
22	6mm SolarPro 043 on Low Iron/1.52mm PVB/6mm Planibel#4	39	13	18	28	11	3.66	2.92	0.48	0.41
23	5mm Green/0.38mm PVB/5mm Planibel#4	70	8	10	37	6	3.77	3.00	0.56	0.49
24	6mm Green/1.52mm PVB/6mm Planibel#4	65	7	8	30	5	3.66	2.92	0.52	0.45
25	6mm SolarPro 265 on Green/1.52mm PVB/6mm Planibel#4	48	14	11	23	8	3.66	2.92	0.44	0.39
26	6mm SolarPro 254 on Green/1.52mm PVB/6mm Planibel#4	40	12	12	29	7	3.66	2.92	0.41	0.36
27	6mm SolarPro 243 on Green/1.52mm PVB/6mm Planibel#4	31	11	17	14	7	3.66	2.92	0.37	0.32
28	5mm Grey/0.38mm PVB/5mm Planibel#4	45	6	9	36	6	3.77	3.00	0.56	0.49
29	6mm Grey/1.52mm PVB/6mm Planibel#4	39	5	7	29	5	3.66	2.92	0.49	0.43
30	6mm SolarPro 365 on Grey/1.52mm PVB/6mm Planibel#4	29	8	11	22	7	3.66	2.92	0.44	0.38
31	6mm SolarPro 354 on Grey/1.52mm PVB/6mm Planibel#4	24	7	12	18	6	3.66	2.92	0.40	0.35
32	6mm SolarPro 343 on Grey/1.52mm PVB/6mm Planibel#4	19	7	17	13	6	3.66	2.92	0.35	0.32
33	5mm Dark Blue/0.38mm PVB/5mm Planibel#4	55	7	9	38	6	3.77	3.00	0.58	0.51
34	6mm Dark Blue/1.52mm PVB/6mm Planibel#4	49	6	7	31	5	3.66	2.92	0.52	0.46
35	6mm SolarPro 565 on Dark Blue/1.52mm PVB/6mm Planibel#4	36	10	11	24	8	3.66	2.92	0.45	0.40
36	6mm SolarPro 554 on Dark Blue/1.52mm PVB/6mm Planibel#4	30	9	12	19	7	3.66	2.92	0.42	0.36
37	6mm SolarPro 543 on Dark Blue/1.52mm PVB/6mm Planibel#4	24	8	17	14	7	3.66	2.92	0.37	0.32
38	5mm Crystal Grey/0.38mm PVB/5mm Planibel#4	61	7	9	44	7	3.77	3.00	0.63	0.55
39	6mm Crystal Grey/1.52mm PVB/6mm Planibel#4	55	7	8	37	6	3.66	2.92	0.57	0.50
40	6mm SolarPro 765 on Crystal Grey/1.52mm PVB/6mm Planibel#4	41	11	11	29	9	3.66	2.92	0.49	0.43
41	6mm SolarPro 754 on Crystal Grey/1.52mm PVB/6mm Planibel#4	34	10	12	23	8	3.66	2.92	0.44	0.39
42	6mm SolarPro 743 on Crystal Grey/1.52mm PVB/6mm Planibel#4	27	9	17	17	8	3.66	2.92	0.39	0.34

SUNERGY SOLAR REFLECTIVE LAMINATED SERIES

No	Description Of Sample	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
		Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
			Indoor	Outdoor						
1	5mm Clear/0.38mm PVB/5mm Sunergy#4	67	8	10	47	8	4.06	3.35	0.65	0.57
2	6mm Clear/1.52mm PVB/6mm Sunergy#4	66	8	10	44	7	3.94	3.26	0.63	0.55
3	6mm SolarPro 165 on Clear/1.52mm PVB/6mm Sunergy#4	52	18	11	37	16	3.94	3.26	0.56	0.49
4	6mm SolarPro 154 on Clear/1.52mm PVB/6mm Sunergy#4	44	15	12	30	12	3.94	3.26	0.51	0.44
5	6mm SolarPro 143 on Clear/1.52mm PVB/6mm Sunergy#4	34	13	16	22	12	3.94	3.26	0.44	0.39
6	5mm Low Iron/0.38mm PVB/5mm Sunergy#4	68	9	10	49	9	4.06	3.35	0.67	0.59
7	6mm Low Iron/1.52mm PVB/6mm Sunergy#4	68	9	10	47	8	3.94	3.26	0.66	0.58
8	6mm SolarPro 065 on Low Iron/1.52mm PVB/6mm Sunergy#4	52	19	12	41	19	3.94	3.26	0.58	0.5

PERFORMANCE DATA

SUNERGY SOLAR REFLECTIVE LAMINATED SERIES

No	Description Of Sample	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
		Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
			Indoor	Outdoor						
9	6mm SolarPro 054 on Low Iron/1.52mm PVB/6mm Sunergy#4	43	16	13	32	12	3.94	3.26	0.52	0.45
10	6mm SolarPro 043 on Low Iron/1.52mm PVB/6mm Sunergy#4	34	13	17	24	11	3.94	3.26	0.45	0.39
11	5mm Green/0.38mm PVB/5mm Sunergy#4	61	7	8	30	6	4.06	3.35	0.52	0.46
12	6mm Green/1.52mm PVB/6mm Sunergy#4	56	7	10	26	5	3.94	3.26	0.49	0.42
13	6mm SolarPro 265 on Green/1.52mm PVB/6mm Sunergy#4	43	14	11	20	8	3.94	3.26	0.44	0.38
14	6mm SolarPro 254 on Green/1.52mm PVB/6mm Sunergy#4	36	12	11	17	7	3.94	3.26	0.41	0.36
15	6mm SolarPro 243 on Green/1.52mm PVB/6mm Sunergy#4	28	10	15	13	7	3.94	3.26	0.38	0.33
16	5mm Grey/0.38mm PVB/5mm Sunergy#4	39	6	7	29	6	4.06	3.35	0.51	0.45
17	6mm Grey/1.52mm PVB/6mm Sunergy#4	35	5	7	25	6	3.94	3.26	0.49	0.42
18	6mm SolarPro 365 on Grey/1.52mm PVB/6mm Sunergy#4	26	8	10	20	8	3.94	3.26	0.43	0.38
19	6mm SolarPro 354 on Grey/1.52mm PVB/6mm Sunergy#4	21	7	11	16	6	3.94	3.26	0.4	0.35
20	6mm SolarPro 343 on Grey/1.52mm PVB/6mm Sunergy#4	16	7	15	12	6	3.94	3.26	0.37	0.32
21	5mm Dark Blue/0.38mm PVB/5mm Sunergy#4	48	6	8	31	6	4.06	3.35	0.53	0.46
22	6mm Dark Blue/1.52mm PVB/6mm Sunergy#4	42	6	8	26	5	3.94	3.26	0.49	0.42
23	6mm SolarPro 565 on Dark Blue/1.52mm PVB/6mm Sunergy#4	32	10	10	21	8	3.94	3.26	0.45	0.39
24	6mm SolarPro 554 on Dark Blue/1.52mm PVB/6mm Sunergy#4	27	9	11	17	7	3.94	3.26	0.41	0.36
25	6mm SolarPro 543 on Dark Blue/1.52mm PVB/6mm Sunergy#4	21	8	15	13	7	3.94	3.26	0.38	0.33
26	5mm Crystal Grey/0.38mm PVB/5mm Sunergy#4	53	6	8	36	7	4.06	3.35	0.57	0.49
27	6mm Crystal Grey/1.52mm PVB/6mm Sunergy#4	50	6	8	33	6	3.93	3.26	0.54	0.47
28	6mm SolarPro 765 on Crystal Grey/1.52mm PVB/6mm Sunergy#4	37	11	10	25	10	3.94	3.26	0.47	0.41
29	6mm SolarPro 754 on Crystal Grey/1.52mm PVB/6mm Sunergy#4	31	10	11	20	8	3.94	3.26	0.44	0.38
30	6mm SolarPro 743 on Crystal Grey/1.52mm PVB/6mm Sunergy#4	24	9	15	15	8	3.94	3.26	0.4	0.34

SOLAR REFLECTIVE SOLARPRO SERIES

No	Description Of Sample	Reflective Colour	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
			Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
				Indoor	Outdoor						
1	6mm SolarPro 165 on Clear	Light Blue Grey	66	18	12	68	15	5.75	5.18	0.84	0.73
2	6mm SolarPro 154 on Clear	Blue Grey	56	16	13	52	11	5.61	5.03	0.72	0.63
3	6mm SolarPro 143 on Clear	Light Grey	43	13	19	39	11	5.19	4.58	0.61	0.53
4	6mm SolarPro 065 on Low Iron	Light Blue Grey	67	18	12	71	16	5.76	5.19	0.86	0.75
5	6mm SolarPro 054 on Low Iron	Blue Grey	56	16	13	55	12	5.61	5.04	0.75	0.65
6	6mm SolarPro 043 on Low Iron	Light Grey	44	14	19	41	12	5.19	4.58	0.62	0.54
7	6mm SolarPro 265 on Green	Blue Green	55	14	11	33	8	5.76	5.19	0.59	0.52
8	6mm SolarPro 254 on Green	Blue Green	46	12	12	26	7	5.61	5.04	0.54	0.47
9	6mm Solarpro 243 on Green	Green	36	10	19	20	7	5.19	4.58	0.47	0.41
10	6mm SolarPro 365 on Grey	Grey	33	8	10	36	7	5.76	5.19	0.62	0.54
11	6mm SolarPro 354 on Grey	Grey	27	7	12	28	6	5.61	5.04	0.55	0.48
12	6mm SolarPro 343 on Grey	Grey	21	7	18	21	6	5.19	4.58	0.48	0.42
13	6mm Solarpro 565 on Dark Blue	Blue	41	10	11	37	8	5.76	5.19	0.63	0.54
14	6mm Solarpro 554 on Dark Blue	Blue	35	9	12	29	7	5.61	5.04	0.56	0.49
15	6mm SolarPro 543 on Dark Blue	Blue	27	8	18	22	7	5.19	4.58	0.49	0.42
16	6mm SolarPro 765 on Crystal Grey	Light Grey	47	11	11	45	9	5.76	5.19	0.68	0.59
17	6mm SolarPro 754 on Crystal Grey	Light Grey	39	10	12	35	8	5.61	5.04	0.6	0.53
18	6mm SolarPro 743 on Crystal Grey	Light Grey	30	9	18	26	8	5.19	4.58	0.52	0.45

INSULATING GLASS -SUPER TEMPERABLE LOW-E SERIES

MAKEUP: 6MM SUBSTRATE (LOW E#2) +12MM AIRSPACER J+6MM CLEAR

No	Description Of Sample	Reflective Colour	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
			Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
				Indoor	Outdoor						
1	6mm Super N1#2 on Clear	Neutral	78	12	12	54	24	1.84	1.84	0.68	0.59
2	6mm Super N3#2 on Clear	Neutral	55	14	11	35	20	1.84	1.84	0.48	0.42
3	6mm Super N1#2 on Low Iron	Neutral	79	12	12	56	27	1.84	1.84	0.71	0.62
4	6mm Super N3#2 on Low Iron	Neutral	57	15	12	40	24	1.84	1.84	0.51	0.44

PERFORMANCE DATA

INSULATING GLASS -SUPER TEMPERABLE LOW-E SERIES

MAKEUP: 6MM SUBSTRATE (LOW E#2) +12MM AIRSPACER J+6MM CLEAR

No	Description Of Sample	Reflective Colour	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
			Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
				Indoor	Outdoor						
5	6mm Super N1#2 on Green	Green	65	10	11	30	8	1.84	1.84	0.44	0.39
6	6mm Super N3#2 on Green	Green	46	11	10	22	9	1.84	1.84	0.34	0.3
7	6mm Super N1#2 on Grey	Grey	39	6	10	28	11	1.84	1.84	0.42	0.37
8	6mm Super N3#2 on Grey	Grey	28	7	10	19	10	1.84	1.84	0.32	0.28
9	6mm Super N1#2 on Dark Blue	Blue	49	7	10	31	10	1.84	1.84	0.45	0.39
10	6mm Super N3#2 on Dark Blue	Blue	35	8	10	21	10	1.84	1.84	0.34	0.29
11	6mm Super N1#2 on Crystal Grey	Light Grey	55	8	11	36	13	1.84	1.84	0.51	0.44
12	6mm Super N3#2 on Crystal Grey	Light Grey	39	9	10	25	12	1.84	1.84	0.38	0.33

INSULATING GLASS -DOUBLE LOW-E SERIES

MAKEUP: 6MM SUBSTRATE (LOW E#2) +12MM AIRSPACER J+6MM CLEAR

No	Description Of Sample	Reflective Colour	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHCC
			Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
				Indoor	Outdoor						
1	6mm Natural CLR 78 - 1 on Clear	Neutral	68	11	12	34	33	1.67	1.62	0.44	0.39
2	6mm Natural CLR 67 -1 on Clear	Neutral	61	11	12	31	33	1.69	1.64	0.41	0.36
3	6mm Aqua SHade 69-1 on Clear	Light Blue	58	14	13	28	35	1.69	1.64	0.37	0.32
4	6mm Aqua SHade 59-1 on Clear	Light Blue	54	17	14	25	39	1.65	1.59	0.33	0.29
5	6mm Cool SHade 60-1 on Clear	Platinum	51	12	11	24	31	1.68	1.64	0.34	0.29
6	6mm Cool SHade 57 - 1 on Clear	Light Grey	53	14	11	25	32	1.69	1.65	0.35	0.30
7	6mm Cool SHade 52 - 1 on Clear	Light Grey	48	14	11	22	31	1.67	1.62	0.32	0.28
8	6mm Plati SHade 61-1 on Clear	Silver Grey	53	20	14	24	38	1.67	1.62	0.33	0.28
9	6mm Plati SHade 39-1 on Clear	Silver Grey	40	20	15	18	35	1.69	1.64	0.26	0.23
10	6mm Natural CLR 78 -0 on Low Iron	Neutral	69	11	13	36	40	1.67	1.62	0.45	0.40
11	6mm Natural CLR 67 - 0 on Low Iron	Neutral	64	11	12	34	47	1.69	1.64	0.43	0.38
12	6mm Aqua SHade 69-0 on Low Iron	Light Blue	61	14	13	30	44	1.69	1.65	0.38	0.33
13	6mm Aqua SHade 59 - 0 on Low Iron	Light Blue	55	17	15	26	44	1.65	1.59	0.34	0.30
14	6mm Cool SHade 60-0 on Low Iron	Platinum	53	13	12	27	39	1.69	1.65	0.35	0.30
15	6mm Cool SHade 57 - 0 on Low Iron	Light Grey	54	15	12	27	39	1.69	1.65	0.35	0.31
16	6mm Cool SHade 52-0 on Low Iron	Light Grey	49	14	12	24	37	1.67	1.62	0.33	0.29
17	6mm Plati SHade 61-0 on Low Iron	Silver Grey	55	20	15	26	44	1.67	1.62	0.33	0.29
18	6mm Plati SHade 39-0 on Low Iron	Silver Grey	41	20	16	19	44	1.69	1.64	0.26	0.23
19	6mm Natural CLR 78-2 on Green	Green	56	9	11	23	9	1.67	1.62	0.35	0.30
20	6mm Natural CLR 67-2 on Green	Green	52	9	11	22	9	1.69	1.64	0.33	0.29
21	6mm Aqua SHade 69-2 on Green	Green	47	10	13	19	10	1.69	1.64	0.30	0.26
22	6mm Aqua SHade 59-2 on Green	Green	46	13	13	18	11	1.65	1.59	0.28	0.25
23	6mm Cool SHade 60-2 on Green	Green	41	10	11	17	9	1.69	1.64	0.27	0.24
24	6mm Cool SHade 57-2 on Green	Green	44	11	11	17	10	1.69	1.65	0.29	0.25
25	6mm Cool SHade 52-2 on Green	Green	40	11	11	16	9	1.67	1.62	0.27	0.24
26	6mm Plati SHade 61-2 on Green	Green	44	15	14	17	11	1.67	1.62	0.28	0.24
27	6mm Plati SHade 39-2 on Green	Green	34	16	15	13	12	1.69	1.64	0.23	0.20
28	6mm Natural CLR 78-3 on Grey	Grey	34	6	10	18	14	1.67	1.62	0.29	0.25
29	6mm Natural CLR 67-3 on Grey	Grey	31	6	10	18	15	1.69	1.64	0.28	0.24
30	6mm Aqua SHade 69-3 on Grey	Grey	29	7	12	15	15	1.69	1.64	0.25	0.22
31	6mm Aqua SHade 59-3 on Grey	Grey	27	8	13	14	17	1.65	1.59	0.23	0.20
32	6mm Cool SHade 60-3 on Grey	Grey	25	6	11	13	14	1.69	1.64	0.23	0.20
33	6mm Cool SHade 57-3 on Grey	Grey	26	7	10	13	14	1.69	1.65	0.24	0.21
34	6mm Cool SHade 52-3 on Grey	Grey	24	7	10	12	13	1.67	1.62	0.22	0.20
35	6mm Plati SHade 61-3 on Grey	Grey	26	8	13	13	15	1.67	1.62	0.23	0.20
36	6mm Plati SHade 61-3 on Grey	Grey	20	8	14	9	15	1.69	1.64	0.19	0.17
37	6mm Natural CLR 78-5 on Dark Blue	Blue	43	7	10	21	12	1.67	1.62	0.32	0.28
38	6mm Natural CLR 67-5 on Dark Blue	Blue	39	7	11	20	13	1.69	1.64	0.31	0.27
39	6mm Aqua SHade 69-5 on Dark Blue	Blue	36	8	12	17	14	1.69	1.64	0.28	0.24

PERFORMANCE DATA

INSULATING GLASS -DOUBLE LOW-E SERIES

MAKEUP: 6MM SUBSTRATE (LOW E#2) +12MM AIRSPACER]+6MM CLEAR

No	Description Of Sample	Reflective Colour	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.°C)		Shading Coefficient	SHGC
			Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
				Indoor	Outdoor						
40	6mm Aqua SHade 59-5 on Dark Blue	Blue	35	9	13	16	16	1.65	1.59	0.26	0.23
41	6mm Cool SHade 60-5 on Dark Blue	Blue	32	8	11	15	13	1.69	1.64	0.26	0.22
42	6mm Cool SHade 57-5 on Dark Blue	Blue	33	8	10	15	13	1.69	1.65	0.27	0.23
43	6mm Cool SHade 52-5 on Dark Blue	Blue	30	8	10	14	12	1.67	1.62	0.25	0.22
44	6mm Plati SHade 61-5 on Dark Blue	Blue	33	11	13	15	14	1.67	1.62	0.25	0.22
45	6mm Plati SHade 39-5 on Dark Blue	Blue	25	11	14	11	14	1.69	1.64	0.21	0.19
46	6mm Natural CLR 78-7 on Crystal Grey	Light Grey	48	8	11	24	17	1.67	1.62	0.35	0.31
47	6mm Natural CLR 67-7 on Crystal Grey	Light Grey	44	9	11	23	19	1.69	1.64	0.33	0.29
48	6mm Aqua SHade 69-7 on Crystal Grey	Light Grey	41	9	12	20	18	1.69	1.64	0.30	0.26
49	6mm Aqua SHade 59-7 on Crystal Grey	Light Grey	39	11	13	19	22	1.65	1.59	0.28	0.24
50	6mm Cool SHade 60-7 on Crystal Grey	Light Grey	36	9	11	17	16	1.69	1.64	0.28	0.24
51	6mm Cool SHade 57-7 on Crystal Grey	Light Grey	37	9	10	17	17	1.69	1.65	0.28	0.25
52	6mm Cool SHade 52-7 on Crystal Grey	Light Grey	34	9	10	16	16	1.67	1.62	0.27	0.23
53	6mm Plati SHade 61-7 on Crystal Grey	Light Grey	38	12	13	17	19	1.67	1.62	0.27	0.23
54	6mm Plati Shade 39-7 on Crystal Grey	Light Grey	28	13	14	13	20	1.69	1.64	0.22	0.20

INSULATING GLASS -TRIPLE LOW-E SERIES

MAKEUP: 6MM SUBSTRATE (LOW E#2) +12MM AIRSPACER]+6MM CLEAR

No	Description Of Sample	Reflective Colour	Visible Light (%)			Solar Energy (%)		U-Value (w/m ² .°C)		Shading Coefficient	SHGC
			Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
				Indoor	Outdoor						
1	6mm Natural CLR 72S-1 on Clear	Neutral	66	11	12	28	38	1.67	1.62	0.36	0.31
2	6mm Natural CLR 65S-1 on Clear	Neutral Green	62	12	12	25	38	1.65	1.59	0.33	0.28
3	6mm Aqual SHade 52S-1 on Clear	Light Blue	51	16	16	20	40	1.65	1.59	0.27	0.23
4	6mm Super SHade 52S-1 on Clear	Neutral Grey	53	13	13	22	39	1.65	1.59	0.30	0.26
5	6mm Super SHade 50S-1 on Clear	Blue Grey	48	20	19	19	42	1.65	1.59	0.26	0.23
6	6mm Natural CLR 72S-0 on Low Iron	Neutral	68	11	12	30	49	1.67	1.62	0.36	0.32
7	6mm Natural CLR 65S-0 on Low Iron	Neutral Green	64	12	12	26	48	1.65	1.59	0.33	0.29
8	6mm Aqua SHade 52S-0 on Low Iron	Light Blue	53	17	16	21	51	1.65	1.59	0.27	0.23
9	6mm Super SHade 52S-0 on Low Iron	Neutral Grey	55	14	13	23	49	1.65	1.59	0.30	0.26
10	6mm Super SHade 50S-0 on Low Iron	Blue Grey	50	20	19	20	51	1.65	1.59	0.26	0.23
11	6mm Natural CLR 72S-2 on Green	Green	53	9	11	20	10	1.67	1.62	0.30	0.26
12	6mm Natural CLR 65S-2 on Green	Green	50	9	12	18	10	1.65	1.59	0.28	0.25
13	6mm Aqua SHade 52S-2 on Green	Green	41	12	15	14	11	1.65	1.59	0.24	0.21
14	6mm Super SHade 52S-2 on Green	Green	42	10	13	16	10	1.65	1.59	0.26	0.22
15	6mm Super SHade 50S-2 on Green	Green	39	15	18	14	12	1.65	1.59	0.24	0.21
16	6mm Natural CLR 72S-3 on Grey	Grey	33	6	10	14	16	1.67	1.62	0.24	0.21
17	6mm Natural CLR 65S-3 on Grey	Grey	30	6	11	13	16	1.65	1.59	0.22	0.19
18	6mm Aqua SHade 52S-3 on Grey	Grey	25	7	15	10	17	1.65	1.59	0.19	0.17
19	6mm Super SHade 52S-3 on Grey	Grey	26	7	12	11	16	1.65	1.59	0.21	0.18
20	6mm Super SHade 50S-3 on Grey	Grey	24	8	18	10	17	1.65	1.59	0.19	0.16
21	6mm Natural CLR 72S-5 on Dark Blue	Blue	41	7	11	17	15	1.67	1.62	0.28	0.24
22	6mm Natural CLR 65S-5 on Dark Blue	Blue	38	7	11	16	15	1.65	1.59	0.25	0.22
23	6mm Aqua SHade 52S-5 on Dark Blue	Blue	31	9	15	12	16	1.65	1.59	0.22	0.19
24	6mm Super SHade 52S-5 on Dark Blue	Blue	33	8	12	14	15	1.65	1.59	0.23	0.20
25	6mm Super SHade 50S-5 on Dark Blue	Blue	30	11	18	12	17	1.65	1.59	0.21	0.18
26	6mm Natural CLR 72S-7 on Crystal Grey	Light Grey	47	8	11	20	19	1.67	1.62	0.30	0.26
27	6mm Natural CLR 65S-7 on Crystal Grey	Light Grey	44	8	11	18	19	1.65	1.59	0.27	0.23
28	6mm Aqua SHade 52S-7 on Crystal Grey	Light Grey	36	10	15	14	20	1.65	1.59	0.23	0.20
29	6mm Super SHade 52S-7 on Crystal Grey	Light Grey	37	9	13	15	19	1.65	1.59	0.25	0.21
30	6mm Super SHade 50S-7 on Crystal Grey	Light Grey	34	12	18	14	21	1.65	1.59	0.22	0.19

PERFORMANCE DATA

INSULATING GLASS - VISUALITE LOW-E SERIES

MAKEUP: 6MM SUBSTRATE (LOW E#2) +12MM AIRSPACER J+6MM CLEAR

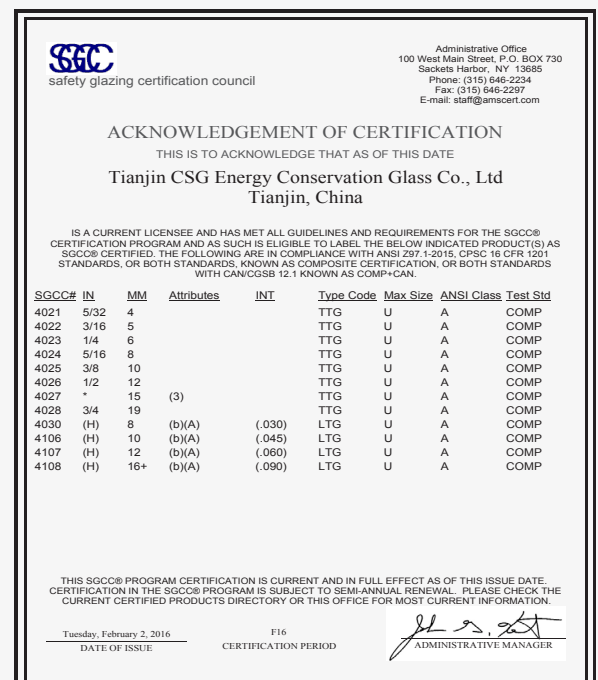
No	Description Of Sample	Reflective Colour	Visible Light (%)			Solar Energy (%)		U-Value (w/m2.C)		Shading Coefficient	SHGC
			Transmission	Reflectance		Transmission	Reflectance	Winter Night	Summer Daylight		
				Indoor	Outdoor						
1	6mm Emeralite 43-1 on Clear	Emerald Green	41	19	13	23	25	1.75	1.72	0.33	0.29
2	6mm Aqualite 44-1 on Clear	Silver Blue	42	20	13	18	34	1.71	1.67	0.28	0.24
3	6mm Purplelite 26-1 on Clear	Purple	26	16	12	11	34	1.69	1.65	0.20	0.17
4	6mm EQ Pink 40-1 on Clear	Pinkish Red	37	19	13	17	38	1.69	1.64	0.25	0.21
5	6mm Fluro Pink 40-1 on Clear	Bright Pink	36	20	16	17	41	1.69	1.64	0.24	0.21
6	6mm Ivory Gold 50-1 on Clear	Light Gold	44	19	14	24	33	1.74	1.72	0.34	0.29
7	6mm Pewterlite 55-1 on Clear	Pewter	50	19	19	23	35	1.69	1.64	0.32	0.28
8	6mm Goldlite 47-1 on Clear	Gold	42	18	18	22	34	1.71	1.67	0.32	0.28
9	6mm Champagne 46-1 on Clear	Champagne	43	18	15	24	32	1.73	1.7	0.34	0.30
10	6mm Sky Blue 45-1 on Clear	Sky Blue	42	18	18	22	34	1.71	1.67	0.32	0.28

TERMINOLOGY

Visible Light Reflectance	The percentage of visible light that is reflected from the glass
Solar Transmittance	The percentage of ultraviolet visible & rear infrared energy (300-250mm) that is transmitted
Solar Reflective	The percentage of solar energy that is reflected from the glass surface
Shading Coefficient (SC)	The ratio of the solar heat gain through a given type of glass to the solar heat gain through a pane of 1/8 (3mm) clear glass under identical conditions. The lower the shading coefficient the lower the solar heat gain
U-Value	Based on standards a measure of the heat gain or loss through glass due to the difference

Our Certificates

CSG Tianjin Factory Architectural Glass



Our Certificates

CSG Dongguan Factory Architectural Glass

SGCC
safety glazing certification council

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Fax: (315) 646-2297
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ACKNOWLEDGEMENT OF CERTIFICATION
THIS IS TO ACKNOWLEDGE THAT AS OF THIS DATE

Dongguan CSG Architectural Glass Co., Ltd.
Dongguan, Guangdong, China

IS A CURRENT LICENSEE AND HAS MET ALL GUIDELINES AND REQUIREMENTS FOR THE SGCC® CERTIFICATION PROGRAM AND AS SUCH IS ELIGIBLE TO LABEL THE BELOW INDICATED PRODUCT(S) AS SGCC® CERTIFIED. THE FOLLOWING ARE IN COMPLIANCE WITH ANSI Z97.1-2015, CPSC 16 CFR 1201 STANDARDS, OR BOTH STANDARDS, KNOWN AS COMPOSITE CERTIFICATION, OR BOTH STANDARDS WITH CAN/CSB 12.1 KNOWN AS COMP+CAN.

SGCC#	IN	MM	Attributes	INT	Type Code	Max Size	ANSI Class	Test Std
3932	5/32	4			TTG	U	A	COMP+CAN
3933	3/16	5			TTG	U	A	COMP+CAN
3934	1/4	6			TTG	U	A	COMP+CAN
3935	5/16	8			TTG	U	A	COMP+CAN
3936	3/8	10			TTG	U	A	COMP+CAN
3937	1/2	12			TTG	U	A	COMP+CAN
3938	*	15	(3)		TTG	U	A	COMP+CAN
3939	3/4	19			TTG	U	A	COMP+CAN
4167	(H)	8-12	(b)(A)	(.030)	LTG	U	A	COMP+CAN

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Wednesday, January 20, 2016
DATE OF ISSUE

F16
CERTIFICATION PERIOD

[Signature]
ADMINISTRATIVE MANAGER

JAS (Inspection & Testing) Ltd

A
Calibration Report
of the
Heat Soak Process Oven "F"
For
Dongguan CSG Architectural Glass Co., Ltd.
To
BS EN 14179-1:2005

Prepared by: **JAS (Inspection & Testing) Ltd.**

Date: 7th January 2016

Our Ref.: J3372-R01-160107

1712-14 17/F Topsall Plaza, 11 On Sum Street, Shatin N1, Hong Kong
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IGMA
INSULATING
GLASS
MANUFACTURERS
ALLIANCE

ACKNOWLEDGEMENT OF CERTIFICATION
THIS IS TO ACKNOWLEDGE THAT AS OF THIS DATE

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Dongguan, Guangdong, China

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CERT #	GLASS	SPACER	FRAME CONST.	DESICCANT	SEALANT	GCIA
2660	U/U	AA	BC4/GSJ	LF	PIB/S2	No
1476	U/U	AA	BC4/GSJ	LF	PIB/PS	No

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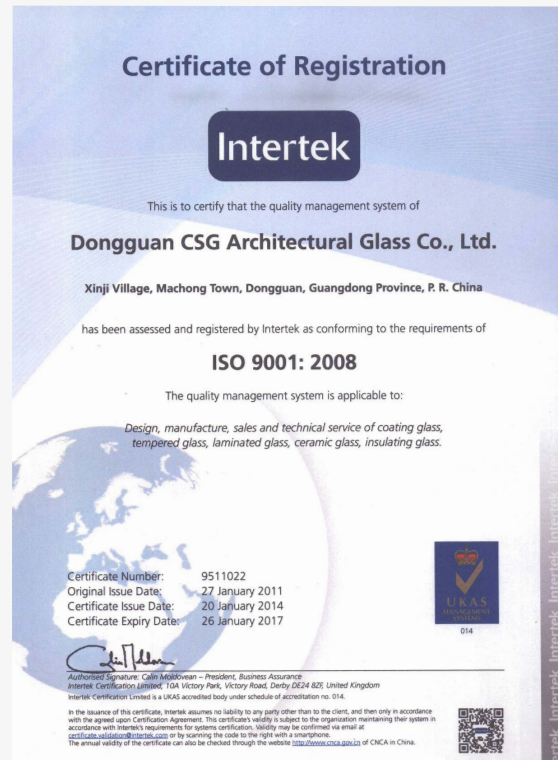
Wednesday, December 23, 2015
DATE OF ISSUE

February 1, 2016 - January 31, 2017
CERTIFICATION PERIOD

[Signature]
ADMINISTRATIVE MANAGER

Our Certificates

CSG Dongguan Factory Architectural Glass





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